

WHAT WE CLAIM IS

1. A clamping device for clamping work pieces, of the type comprising:

- a box-shaped body having a longitudinal axis;

5 - at least one clamping member movably supported for clamping a work piece, said clamping member comprising a hook-shaped fore portion protruding from a fore end of the body, and a rear shank operatively connected to a control member designed to conjointly move and tilt the clamping member in respect to said 10 longitudinal axis and in a cross direction of the body, between a forward disengaging position and a backward locking position for the work piece, and

15 - cleaning means for cleaning the clamping member and to prevent infiltration of dirt into the box-shaped body of the device;

wherein the fore portion of the clamping member is connected to the rear shank by an intermediate arch shaped connecting portion having front and back longitudinal edges;

20 wherein the cleaning means comprise a closure plate at the fore end of the box-shaped body, said closure plate having an aperture for protrusion of the clamping member, provided with scraping edges; and

25 wherein the front and back longitudinal edges of the intermediate portion of the clamping member each present a sharpened profile which remains in contact with a respective

scraping edge of the closure plate, during the movement of the clamping member for locking and disengaging the workpiece.

2. A clamping device according to 1, wherein a centring stem for a clamped workpiece is provided at the fore end of the 5 box-shaped body.

3. A clamping device according to claim 2, wherein said centring stem is coaxial arranged to the box-shaped body.

4. A clamping device according to claim 1, wherein in the forward position of the clamping member an hinge point of the 10 toggle link is disposed on a side of the thrust member, while the other hinge point of the toggle link is substantially aligned with the thrust member of the clamping device.

5. A clamping device according to claim 1, wherein the box-shaped body, has a cross-section of rectangular shape having 15 long and short sides, the clamping member being movable parallel to the short side.

6. A clamping device according to claim 1, comprising scraping means for cleaning the clamping member and for preventing the infiltration of dirt at the fore end of the box- 20 shaped body.

7. A clamping device according to claim 5, wherein the box-shaped body, at its fore end, comprises slots for discharging the dirt.

8. A clamping device according to claim 1, wherein the 25 toggle-link is conformed to be elastically yieldable in the axial

direction.

9. A clamping device according to claim 1, wherein the first and the second crank members of the articulated quadrilateral system are of different lengths.

5 10. A clamping device according to claim 9, wherein the first crank member hinged to the toggle link, is shorter than the second crank member.

11. A clamping device according to claim 1, wherein the lever arm of the first crank member is disposed at an angle with  
10 respect to the same crank member.

12. A clamping device according to claim 9, wherein the angle between the lever arm and the first crank member is ranging between 120° to 160°.

13. A clamping device according to claim 1, wherein the  
15 box-shaped body comprises a stop element for retaining the articulated quadrilateral system in the backward position of the clamping member.

14. A clamping device for clamping work pieces, of the type comprising:

20 - a box-shaped body having a longitudinal axis;  
- at least one clamping member movably supported for clamping a work piece, said clamping member comprising a hook-shaped fore portion protruding from a fore end of the body, and a rear shank operatively connected to a control member designed to  
25 conjointly move and tilt the clamping member in respect to said

longitudinal axis and in a cross direction of the body, between a forward disengaging position and a backward locking position for the work piece, and

5 - cleaning means for cleaning the clamping member and to prevent infiltration of dirt into the box-shaped body of the device;

wherein the fore portion of the clamping member is connected to the rear shank by an intermediate arch shaped connecting portion having front and back longitudinal edges;

10 wherein the cleaning means comprise a closure plate at the fore end of the box-shaped body, said closure plate having an aperture for protrusion of the clamping member, provided with scraping edges; and

15 wherein the front and back longitudinal edges of the intermediate portion of the clamping member, each present a sharpened profile which remains in contact with a respective scraping edge of the closure plate, during the movement of the clamping member for locking and disengaging the workpiece.

15. A clamping device according to claim 14, wherein the 20 front and back edges of the intermediate connecting portion of the clamping member, have an arch shaped profile defined by the envelopment of the contact points between the longitudinal edges of the same intermediate connecting portion and scraping edges of the closure plate.

25 16. A clamping device according to claim 14, wherein said

closure plate, has shaped scraping edges.